Claims

What is claimed is:

1. An integrated circuit device, comprising:

a controller; and

a serial trace port, wherein the serial trace port provides controller trace data and wherein the controller trace data is provided external to the integrated circuit device using a differential serial channel.

2. The device of Claim 1, wherein the differential serial channel transmits data, control and timing information in a serial stream.

3. The device of Claim 1, further comprising:

a second controller, wherein the serial trace port also provides controller trace data of the second controller.

4. The device of Claim 3, wherein the serial trace port receives a reference clock signal and provides a clock signal to each of the controller and second controller.

5. The device of Claim 3, further comprising:

a trace buffer operatively coupled to the controller and the second controller; and

a serializer, operatively coupled between the differential serial channel and the trace buffer, which converts a parallel data stream from the trace buffer to a serial data stream for the differential serial channel.

6. The device of Claim 1, further comprising:

a trace buffer operatively coupled to the controller;

a serializer, operatively coupled between the differential serial channel and the trace buffer, which converts a parallel data stream from the trace buffer to a serial data stream for the differential serial channel.

7. The device of Claim 6, wherein the parallel data stream comprises compressed data.

8. The device of Claim 5, wherein the serial trace port also provides a serializer clock signal to the serializer.

9. A test apparatus, comprising:

an electronic device comprising a plurality of controllers, a trace buffer operatively coupled to the plurality of controllers, and a differential transmitter operatively coupled to the trace buffer; and

a workstation, operatively coupled to the electronic device, for communicating with the electronic device.

10. The test apparatus of Claim 9, further comprising a serializer, operatively coupled between the differential transmitter and the trace buffer, which converts a parallel data stream from the trace buffer to a serial data stream for the differential transmitter.

11. The test apparatus of Claim 10, wherein the electronic device further comprises a clock means for providing clock signals to each of the plurality of controllers and the serializer.

12. The test apparatus of Claim 10, wherein the parallel data stream comprises compressed data.

13. The test apparatus of Claim 9, further comprising a converter operatively coupled between the electronic device and the workstation for converting data received from the electronic device to a parallel data stream for use by the workstation.

14. The test apparatus of Claim 13, wherein the data received from the electronic device comprises data, control and clock information.

15. The test apparatus of Claim 14, wherein the converter relays test commands from the workstation to the electronic device.

16. The test apparatus of Claim 9, wherein the differential transmitter transmits a serial stream comprising data, control and clock information.

17. A method of transforming trace data from a plurality of embedded controllers of an electronic device, comprising the steps of:

storing trace data from each of the embedded controllers in memory;

retrieving the trace data from the memory and converting the retrieved trace data to a serial stream; and

transmitting the serial stream using at least one differential transmitter.

18. The method of Claim 17, further comprising a step of compressing the retrieved trace data prior to converting the retrieved trace data, such that the converting step converts compressed trace data to the serial stream.

19. The method of Claim 17, further comprising the steps of:

receiving the transmitted serial stream and converting the received serial stream into a parallel stream; and

displaying at least a portion of the parallel stream as controller trace data.

20. The method of Claim 19, further comprising a step of transmitting a second serial stream using a second differential transmitter.

21. The method of Claim 20, wherein the serial stream contains trace data of a first controller of the plurality of embedded controllers and the second serial stream contains trace data of a second controller of the plurality of embedded controllers.

22. The method of Claim 21, wherein the transmitted serial stream and the second serial stream each comprise data, control and clock information.

23. The method of Claim 17, wherein the transmitted serial stream comprises data, control and clock information.